

Los Alamos National Laboratory Tritium Technology Deployments Large Scale Demonstration and Deployment Project

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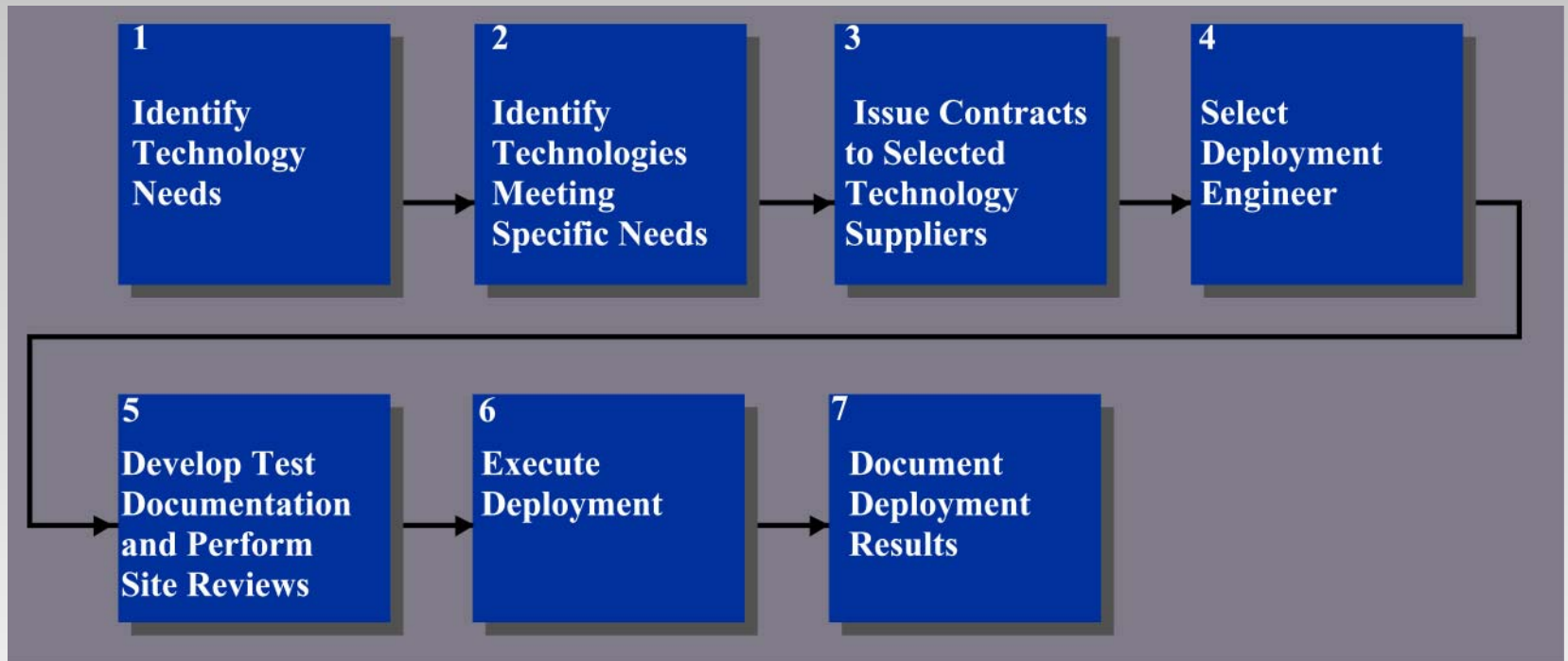


LANL Tritium LSDDP Goals

- Reduction of cost, risk and schedule for the deactivation, decontamination, and decommissioning of DOE's tritium facilities through the deployment of previously demonstrated innovative technologies
- Proposed over 20 deployments



Technical Approach



Project Status

- Project funded in late FY01 for project documents and planning
- FY02 funding arrived and ICT meetings initiated
- First deployment in progress



Maturity of the technologies

- Primary focus is deployment of cost and risk reducing demonstrated technologies with Innovative Technology Summary Reports
- Focus allows commercial technologies with documented performance



CRITERION 1

Thrust 1

Closure Site Support

- Mound and RFETS are targeted for deployment of cost saving and risk reduction technologies
- ICT, composed of multidisciplinary hands-on team of tritium D&D experts from across the DOE Complex, is uniquely postured to provide D&D recommendations



Thrust 2

Alternative Approaches

- ICT representatives from Mound, LANL, PPPL, LLNL, RFETS, and SRS will support identification of high risk/ high cost needs in tritium facility D&D
- ICT representatives will identify and recommend technologies to address high cost/ high risk activities



CRITERION 1

Identified Technology Needs

- Decontamination techniques for tritiated gloveboxes
- Decontaminating and disposing of tritium-contaminated pump oil
- Quantitation of tritium contamination
- Removal of tritium from difficult access interior contamination
- Detritiation of water
- Controlling off-gassing during removable of contamination from piping
- Dismantlement of concrete-encased piping
- Improved worker protection equipment



CRITERION 1

Timeliness of Deployments

- Mound D&D – ongoing
- RFETS D&D – ongoing
- LANL TSTA – ongoing
- Princeton Lab – ongoing
- LLNL Lab – ongoing
- SRS Bldg 232 – scheduled



Deployment Performance Characteristics/Selection Criteria

Benefit:

- Cost savings?
- Schedule reduction?
- Risk reduction?

Appropriateness:

- Previously demonstrated?
- Performance matches the need?
- Multi-site interest?
- Commercially available?

Feasibility:

- Cost within LSDDP budget?
- Host site cost sharing?
- Acceptable under current authorization basis?
- Site resources available?



CRITERION 2

Evaluation of safety features of the technology

- ITSRs address specific safety issues
- Site safety reviews will address safety in deployments
- Multidisciplinary ICT team will consider safety in bringing candidate technologies forward



CRITERION 2

Benefits of the technology supports EM thrusts

- ICT multidisciplinary team provides closure site support (Mound, RFETS, and ICT member sites) with Complex-wide expertise to address technology needs (Thrust 1)
- Alternative approaches are inherent in deploying the innovative technologies (Thrust 2)



Potential that technologies become baseline technologies

- ICT interest in several technologies indicates baseline status is likely



Potential that technologies become baseline technologies

ICT interest in several technologies indicates baseline status is likely

- Lumi-Scint – 4 sites
- NOCHAR – 2 sites
- Tritium Cart – 3 sites
- Rad Elec – 4 sites
- TechXtract – 4 sites
- Hammer drill – 4 sites
- Race Scan – 3 sites



CRITERION 2

Progress of the project

- Identification of a potential 42 cost and risk reducing deployments
- One deployment at LANL underway
- Thrust 1 support to RFETS for tritium skid



CRITERION 3

Technical, cost, and schedule status

- The FY01 milestones of project documents and selection criteria were met
- Numerous deployment opportunities identified
- ICT meeting scheduled for late March to complete FY02 deployment selection
- Expenditures ramping up to overcome late start



CRITERION 3

Community, regulator, and stakeholder activities

- Interface with regulators and stakeholders will be on a deployment specific basis



CRITERION 3

Commercialization activities

- Identified deployments generally involve demonstrated commercial systems
- The tritium cart involves simple non-commercial specialty systems that is unlikely candidate for commercialization



CRITERION 3

User commitments to deploy the technologies

Deployment Site	Number of Technologies of Interest to Date
Mound	6
RFETS	5
LANL	8
SRS	9
PPPL	7
LLNL	4



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CRITERION 3

Technical or peer review status

- Attended DDFA Lessons Learned meeting in October



CRITERION 3

Invention disclosure and intellectual property issues

- None identified to date



CRITERION 3

Conclusion

- Tritium LSDDP will support both Thrust 1 and Thrust 2 of EM in reducing the cost and risk of closure of DOE sites



CRITERION 3